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FINAL REPORT

BEARCREEK PROJECT
IFB 7312-G
CARBON COUNTY, MONTANA

JANUARY, 1987

Prepared for: MR. RICHARD JUNTUNEN, CHIEF
Abandoned Mine Reclamation Bureau
Department of State Lands
1625 11th Avenue
Helena, MT 59620

Prepared by: L. C. HANSON COMPANY
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Project Inspectors

L. C. HANSON COMPANY
CONSULTING ENGINEERS & SURVEYORS
HELENA — GREAT FALLS — GLENDIVE

Carbon

FINAL REPORT

BEARCREEK PROJECT

I. INTRODUCTION

A. Project Objectives

The BEARCREEK PROJECT reclamation work was undertaken to clean up debris, remove structures, close mine openings, excavate and regrade coal waste materials, and revegetate all disturbed areas. Fencing of the Burns Mine area was also accomplished as a part of this project.

B. History

The structures, mine openings and coal waste materials were left from past mining activities at several mines. Little is known about the extent of the mine workings, but it is known that vast amounts of coal were mined in the Bearcreek area.

C. Project Location

The work sites consist of mines located in the $SW\frac{1}{4}$ of Section 5, the $S\frac{1}{2}$ of Section 6, and the $N\frac{1}{2}$ of Section 7, all in T8S, R21E, approximately 1 mile west of Bearcreek, Montana and 4 miles east of Red Lodge, Montana.

D. Site Descriptions and Problems

The Coulee Mine contained two collapsed adits and two structures to be removed. Two additional collapsed adits and some coal waste materials existed in the drainage above the mine.

The Burns Mine contained four collapsed adits, collapsed buildings and

a large coal waste pile.

The Smith (Minor) Mine area contained the bulk of debris, five collapsed adits and scattered piles of coal waste materials. This site also contained a garbage dump and additional coal waste pile, both which were removed from the streambed and disposed of under Change Order No. 1.

The abandoned and collapsed structures and the collapsed adits posed hazards to man and livestock. The coal waste piles did not sustain vegetation and thus were subject to air and water erosion.

The construction limits were confined basically to the numerous scattered work areas. The grading limits of the coal waste materials at the Burns Mine site encompassed 4.1 acres. The remaining twenty work sites totalled 3.5 acres.

II. DESCRIPTION OF RECLAMATION PROJECT

A. Project Planning

The major items of work consisted of alleviating health and safety hazards. The removal of coal waste materials from movement by nature constituted the largest item of work. These materials were buried in subsidence features or regraded and sealed in areas above drainages. Removal of abandoned and/or collapsed structures and the regrading of the collapsed adits eliminated safety hazards.

B. Chronological History

1. Project advertised for three consecutive weeks.
2. Pre-bid Conference held on-site on February 26, 1986.
3. Bids opened on March 13, 1986.

4. Contract awarded on March 14, 1986 to

DONNES CONSTRUCTION
4002 McGirl Road
Billings, MT 59105

5. Pre-construction meeting held on April 17, 1986.
6. Contract time started on April 28, 1986.
7. All work with exception of fencing and revegetation work completed on May 22, 1986.
8. Temporary Shutdown Order issued on May 22, 1986.
9. Work on Vondra's Pond started on September 16, 1986.*
10. Work suspended on pond from September 18 to September 21, 1986 due to heavy rains. *
11. Work restarted on pond on September 22, 1986.*
12. Work completed on pond on September 25, 1986.*
13. Resume Work Order issued on October 13, 1986.
14. Fencing and revegetation work completed on October 21, 1986.

* See Appendix A

C. Equipment

1. Terex 14S Scraper
2. Cat D7 Dozer
3. P&H 750 Backhoe
4. 3-End Dump Trucks - 23 C.Y. Cap.
5. $2\frac{1}{2}$ C.Y. Front End Loader
6. Motor Patrol
7. Fertilizer Spreader
8. IH TD8 Dozer
9. Fordson Tractor w/disc
10. Hydroseeder

D. Construction Operations

1. Cleaned up debris for burning.
2. Razed structures for burning and/or burial.
3. Closed adits and regraded portal areas.
4. Excavated, disposed of, and/or regraded coal waste materials.
5. Placed earthen cover material over coal waste materials at Burns Mine in lieu of lime placement.
6. Hauled and placed topsoil at Burns Mine.
7. Work suspended until Fall seeding period.
8. Fenced Burns Mine Site.
9. Seed, fertilizer, and mulch with tackifier applied as specified in Fall.

III. COST SUMMARY

A. Final Payment Request and Reconciliation Change Order

A copy of the Final Payment Request and Reconciliation Change Order are contained in Appendix B. These documents summarize the final quantities and costs for each work item.

B. Change Orders

The following Change Orders were executed during the course of the project:

1. Change Order No. 1 - The Owner added Additive Alternate No. 1. - Provide Topsoil - Imported - to the Contract. An additional garbage dump and coal waste pile being undercut by a stream were to be removed and disposed of. Earthen cover course was to be applied in lieu of lime placement.

2. Change Order No. 2 - The Owner added work to remove accumulated sediments from Vondra's pond in Red Lodge and to dispose of same off-site. Some of the sediments were washed into the pond from a

previous reclamation project. The costs per acre per work item contained herein do not include work under this Change Order. (See Appendix A)

3. Change Order No. 3 - Reconciliation of Final Quantities.

C. Cost per Site/Unit

1. Total Cost
2. Cost per Site
   a. Bearcreek Project $ 85,818.63
      1. Coulee Mine - $8433.80
      2. Burns Mine - $65,342.91
      3. Smith (Minor) Mine - $12,041.92
   b. Vondra's Pond - $ 18,098.22
3. Cost per Acre
   a. Bearcreek Project
      1. Coulee Mine - 0.16 ac = $ 52,711.25
      2. Burns Mine - 6.02 ac = $ 10,854.30
      3. Smith (Minor) Mine - 1.42 ac = $ 8480.23
4. Cost per Acre per Work Item
   a. Bearcreek Project
      1. Debris Cleanup - $84.75/ac *
      2. Removal of Structures - $666.67/each
      3. Close Mine Openings - $500.00/each
      4. Subsidence Backfill - $500.00/each
      5. Waste Pile Disposal - $1854.54/ac **
      6. Lime Placement - $200.00/ac ***
      7. Seed - $276.64/ac
      8. Fertilizer - $92.53/ac
      9. Mulch - $400.00/ac
      10. Fencing - $514.04/ac ****
      11. Topsoil - $7632.45/ac ***

* Based on 59 acres

** Based on 7.44 acres

*** Based on 5.5 acres

**** Based on 6.02 acres

IV. SUMMARY

A. Completed Reclamation

The Contractor was allowed sixty-one (61) days to complete the project. The project was actually completed in thirty-five (35) days.

The project resulted in removing debris, closing of mine openings, elimination of subsidence features, and proper disposal of coal waste materials. Elimination of the health and safety hazards will allow the area to return to its pre-mining condition.

B. Comments

The Contractor completed the work as specified. His equipment was generally well-maintained and efficiently used.

Monitoring of this site should be carried out in the future for any further subsidence that might occur. The subsidence features encountered on this project appeared to be old and no evidence of active subsidence was found.

V. SLIDES

The slide logs and slides are contained in Appendix C.

APPENDIX A

VONDRA'S POND WORK

The Department entered into an agreement to remove and dispose of sediments in Vondra's Pond. This work was added to this project by Change Order.

Vondra's pond is located adjacent to Highway 78 just below the Red Lodge Airport. It was estimated by others that approximately 450 cubic yards of sediments were contained in the pond, some which were washed into the pond after previous reclamation work had been completed.

A Scope of Work for excavating and disposing of these sediments was drawn up and prices for this work on an hourly basis were agreed upon. The major items of work consisted of dewatering the pond, providing traffic control around the work area, excavating and disposing of sediments, installation of a new fence and site cleanup.

The cost summary for this work is as follows:

1.	Mobilization	$ 1,400.00
2.	Traffic Control	
	a. Material Rental	600.00
	b. Flagperson	964.16
3.	Dewatering	
	a. Equipment Rental	720.00
	b. Labor	628.80
	c. Materials	500.00
4.	Excavation and Disposal of Sediments	
	a. Excavator	3,800.00
	b. Dozer	2,400.00
	c. Dump Trucks	2,400.00
	d. Spreading at disposal site	360.00

e.	Street cleaning	83.84
f.	Pickup truck	500.00
g.	Foreman	2,000.00
5.	Site Cleanup	
a.	Fencing	700.00
b.	Sediment Trap Cleanup and Removal	600.00
	Sub-Total	$ 17,656.80
6.	Bond and Insurance - 2.5%	441.42
	TOTAL COST	$ 18,098.22

APPENDIX B

LCH

PAYMENT REQUEST NO. 3 (Final)

FROM September 25, 1986 TO October 21, 1986

PROJECT NAME BEARCREEK PROJECT

LOCATION Carbon County, Montana PROJECT NO. IFB 7312-G

NAME OF CONTRACTOR Donnes Construction ADDRESS 4002 McGirl Road Billings, MT 59105

SUMMARY OF PROJECT STATUS

Amount of Original Contract	$ 43,473.00
Amount of Approved Change Order(s)	60,443.85
TOTAL CONTRACT AMOUNT	103,916.85
Contract Time Used to Date	50 days
Percentage of Contract Time Used	87%
Percentage of Contract Amount Earned	100%
Original Contract Amount Completed	$ 42,040.13
Change Order(s) Amount Completed	61,875.72
Amount for Materials On Site	0.00
TOTAL To Date	103,916.85
TOTAL AMOUNT Earned To Date	103,916.85
Less Previous Amount Earned	77,236.77
Amount Payable This Period	26,680.08
Less 1% Gross Receipts Tax	266.80
TOTAL DUE CONTRACTOR THIS PERIOD	26,413.28

			Date
Requested By:	Donnes Construction	(Contractor)	1-22-87
Checked By:	L.C. Hanson Company	(Engineer)	1/26/87
Approved By:	Dept. of State Lands	(Owner)	1/26/87

Abandoned Mine Reclamation Bureau

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LOWELL C. HANSON CO.

ITEMIZATION OF QUANTITIES AND COSTS

ITEM NO.	DESCRIPTION	ESTIMATED PLAN QUANTITY	UNIT BID PRICE	UNITS OF WORK COMPLETED THIS REQUEST	UNITS OF WORK COMPLETED TO DATE	TOTAL COST OF COMPLETED WORK	% OF EST. QUANT. COMP.
1.	MOBILIZATION	LUMP SUM	2,000.00	0	1	2,000.00	100*
2.	DEBRIS CLEANUP	LUMP SUM	5,000.00	0	1	5,000.00	100*
3.	REMOVAL OF STRUCTURES	LUMP SUM	2,000.00	0	1	2,000.00	100*
4.	CLOSE MINE OPENINGS						
	a. ADITS (PORTALS)	13 EACH	500.00/EA.	0	13	6,500.00	100*
5.	SUBSIDENCE BACKFILL	9 EACH	500.00/EA.	0	9	4,500.00	100*
6.	WASTE PILE DISPOSAL	LUMP SUM	12,000.00	0	1	12,000.00	100*
7.	LIME PLACEMENT	5.5 ACRE	200.00/ACRE	0	5.5 ACRE	1,100.00	100*
8.	SEED	280 LBS.	6.90/LB.	0	304.7 LBS	2,102.43	100*
9.	FERTILIZER	1036 LBS.	1.00/LB.	0	703.2 LBS	703.20	100*
10.	MULCH	14,000 LB	0.20/LB.	0	15,200 LBS	3,040.00	100*
11.	NEW FENCE (TYPE F-4W)	2539 L.F.	1.00/L.F.	0	1874.5 LF	1,874.50	100*
12.	CORNER PANEL	6 EACH	100.00/EA.	0	0	0.00	100*
13.	SINGLE PANEL	13 EACH	100.00/EA.	0	2 EA	200.00	100*
14.	DOUBLE PANEL	1 EACH	100.00/EA.	0	10 EA	1,000.00	100*
15.	DEADMAN	2 EACH	25.00/EA.	0	0	0.00	100*
16.	GATE (TYPE G-2)	16 L.F.	1.00/L.F.	0	20 LF	20.00	100*
			Sub-Total			$42,040.13	
	CHANGE ORDER NO. 1						
	ADD ALT. NO. 1 - PROVIDE TOPSOIL-IMPORTED	2800 C.Y.	14.75/C.Y.	2846	2846	41,978.50	100*
	EQUIPMENT USE						
	CAT D-7 DOZER	10 HOURS	100.00/HR	10 HOURS	10 HOURS	1,000.00	100*
	P&H 750 BACKHOE	10 HOURS	80.00/HR	10 HOURS	10 HOURS	800.00	100*
	CHANGE ORDER NO. 2						
	VONDRA'S POND WORK (See Attached Sheets)					18,098.22	100*
			TOTAL			$103,916.85	

Change Order No. 2 - VONDRA'S POND Work Summary
Attachment to Payment Request No. 3 (Final)
BEARCREEK PROJECT
IFB 7312-G

1.	MOBILIZATION			
	a. Excavator	$ 500.00		
	b. Dozer	400.00		
	c. Pumps, signs, straw and misc. equipment	500.00	Sub-Total	$ 1,400.00
2.	TRAFFIC CONTROL			
	a. Material rental (12x $50/day)	600.00		
	b. Flagperson (46x $20.96/hour)	964.16		
			Sub-Total	$ 1,564.16
3.	DEWATERING			
	a. Equipment rental 2-4" Trash Pumps (1.5 x 480.00/week)	720.00		
	b. Labor (30 x $20.96/hour)	628.80		
	c. Materials	500.00		
			Sub-Total	$ 1,848.80
4.	EXCAVATION AND DISPOSAL OF SEDIMENT			
	a. Excavator (1-1/2 C.Y.)(10 x $380/hour)	$ 3,800.00		
	b. Dozer (10 x $240/hour)	2,400.00		
	c. Dump trucks (10 x $240/hour)	2,400.00		
	d. Spreading at Disposal Site (3 x $120/hour)	360.00		
	e. Street cleaning (4 x $20/96/hr)	83.84		
	f. Pickup truck (10 x $50/day)	500.00		
	g. Foreman (80 x $25/hour)	2,000.00		
			Sub-Total	$ 11,543.84
5.	SITE CLEANUP			
	F4M Farm Fence - 250 LF x $1.00	$ 250.00		
	F4 Farm Fence Gate - 1 each x $50.00	50.00		
	Single Panel - 4 each x $100	400.00		
	Sediment Trap Cleanup and Removal-3 ea x $200	600.00		
			Sub-Total	$ 1,300.00
			TOTAL COST	$ 17,656.80

Change Order No. 2 - VONDRA'S POND Work Summary
Attachment to Payment Request No. 3 (Final)
BEARCREEK PROJECT
IFB 7312-G

	Balance Forward	$ 17,656.80
6.	BONDS AND INSURANCE	
	2.5% of Total Cost	441.42
7.	TOTAL COST - CHANGE ORDER NO. 2	$ 18,098.22

SECTION II

2.12 CHANGE ORDER Order No. 3

Date: January 20, 1987

Agreement Date: March 26, 1986

NAME OF PROJECT: BEAR CREEK PROJECT - CARBON COUNTY, MONTANA

IFB 7312-G

OWNER: Montana Department of State Lands

CONTRACTOR: Donnes Construction, 4002 McGirl Road, Billings, MT 59105

Change Orders must be accompanied by an itemized cost breakdown. You are hereby requested to comply with the following changes from the Contract Documents. (Show separate costs for materials, labor, equipment and miscellaneous. Show percent where applicable.)

ITEM NO.	DESCRIPTION OF CHANGES - ESTIMATED QUANTITIES & UNITS	COST OF CHANGES					TOTAL COST
		MAT'LS	LABOR	EQUIP.	MISC.	TOTAL UNIT COST	
	Reconciliation of Final Quantities (SEE ATTACHED SHEET)						-$ 826.94

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TOTAL COST - MAT'LS, LABOR, EQUIPMENT & MISC.	
OVERHEAD & PROFIT @ ____%	
GRAND TOTAL - THIS CHANGE ORDER	- $ 826.94

Original Contract Price	$ 43,473.00
Current Contract Price Adjusted by Previous Change Order	104,743.79
Cost This Change Order (+ or -)	- 826.94
New Contract Price Including This Change Order	$ 103,916.85

The completion date as set forth in the Contract Documents shall be (unchanged, ~~increased, decreased~~) by -0- calendar days.

The date for completion of all work will be _____.

Description and Justification for Change:

1. The actual quantities shown were a result of meeting field conditions encountered during construction. Some quantities in Change Order No. 2 are shown as a result of directions of the Owner's personnel.

SURETY CONSENT

The surety hereby consents to the aforementioned Contract Change Order and agrees that its bond or bonds shall apply and extend to the Contract as thereby modified or amended per this Change Order. The principal and the Surety further agree that on or after execution of this consent, the penalty of the applicable Performance Bond or Bonds is hereby ~~increased~~ decreased by Eight Hundred Twenty Six and 94/100---------- ($ 826.94) (One hundred percent (100%) of the Change Order amount) and the penalty of the applicable Payment Bond or Bonds is hereby ~~increased~~ decreased by Eight Hundred Twenty Six and 94/100---------- ($ 826.94) (One hundred percent (100%) of the Change Order amount).

COUNTERSIGNED BY MONTANA RESIDENT AGENT
FBS INSURANCE MONTANA-HOINESS-LaBAR, INC.
BY: [signature]
[illegible]

SURETY
UNITED STATES FIDELITY & GUARANTY COMPANY
BY: [signature] (Seal)
Helen L. Zier, Attorney-in-fact

Recommended by: L. C. Hanson Company [signature] 1/26/87, Engineer Date ~~1-22-87~~

Accepted by: [signature], Contractor 1-22-87

Approved by: [signature], Owner 1/26/87

Change Order No. 3
BEARCREEK PROJECT
IFB 7312-G

RECONCILIATION OF QUANTITIES

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY	ACTUAL QUANTITY	CHANGE IN PRICE
8.	SEED	280.0 LB	304.7 LB	+$ 170.43
9.	FERTILIZER	1036.0 LB	703.2 LB	- 332.80
10.	MULCH	14,000 LB	15,200 LB	+ 240.00
11.	NEW FENCE (TYPE F-4W)	2539 L.F.	1874.5 L.F.	- 664.50
12.	CORNER PANEL	6 EACH	-0-	- 600.00
13.	SINGLE PANEL	13 EACH	2 EACH	- 1,100.00
14.	DOUBLE PANEL	1 EACH	10 EACH	+ 900.00
15.	DEADMAN	2 EACH	-0-	- 50.00
16.	GATE (TYPE G-2)	16 L.F.	20 L.F.	+ 4.00
		Sub-Total		-$ 1,432.87
	CHANGE ORDER NO. 1			
	Add Alt. No. 1 - PROVIDE TOPSOIL IMPORTED	2800 C.Y.	2846 C.Y.	+ 678.50
	CHANGE ORDER NO. 2			
2.	TRAFFIC CONTROL			
	a. Material Rental	5 DAYS	12 DAYS	+ 350.00
	b. Flagperson	40 HOURS	46 HOURS	+ 125.76
3.	DEWATERING			
	a. Labor	20 HOURS	30 HOURS	+ 209.60
4.	EXCAVATION AND DISPOSAL OF SEDIMENT			
	d. Spreading at Disposal Site	5 HOURS	3 HOURS	- 240.00
	e. Street Cleaning	6 HOURS	4 HOURS	- 516.16
6.	BONDS AND INSURANCE	443.19	441.42	- 1.77
		Sub-Total		-$ 72.57
		TOTAL - THIS CHANGE ORDER		-$ 826.94

APPENDIX C

SLIDE LOG

BEARCREEK

1.	4-28-86	Bearcreek	Burns Mine site.
2.	4-28-86	Bearcreek	Interface- Burn Mine.
3.	4-28-86	Bearcreek	Burning debris - Smith (Minor) Mine.
4.	5-1-86	Bearcreek	Remove concrete slab - Smith (Minor) Mine.
5.	5-1-86	Bearcreek	Remove concrete slab - Smith (Minor) Mine.
6.	5-1-86	Bearcreek	Burning building - Coulee Mine.
7.	5-1-86	Belfry	Topsoil source.
8.	5-15-86	Belfry	Stripping topsoil.
9.	5-20-86	Bearcreek	Excavating ditch - Smith (Minor) Mine.
10.	5-20-86	Bearcreek	Pond draining - Smith (Minor) Mine.
11.	5-21-86	Bearcreek	Hauling topsoil - Coulee Mine.
12.	5-21-86	Bearcreek	Hauling topsoil - Coulee Mine.
13.	5-21-86	Bearcreek	Hauling topsoil - Coulee Mine.
14.	5-21-86	Bearcreek	Hauling topsoil - Coulee Mine.
15.	5-21-86	Bearcreek	Hauling topsoil - Coulee Mine.
16.	10-20-86	Bearcreek	Fordson and disc.
17.	10-20-86	Bearcreek	Fertilizer spreader.
18.	10-20-86	Bearcreek	Hydromulcher.
19.	10-20-86	Bearcreek	Spreading fertilizer.
20.	10-20-86	Bearcreek	Hydroseeding on Burns Mine.
21.	10-20-86	Bearcreek	Hydroseeding on Burns Mine.
22.	10-20-86	Bearcreek	Hydroseeding on Burns Mine.
23.	10-21-86	Bearcreek	Looking southwest on Bear Creek.
24.	10-21-86	Bearcreek	Looking west on Bear Creek.
25.	10-21-86	Bearcreek	Looking southwest on Bear Creek.
26.	10-21-86	Bearcreek	Bear Creek looking northwest.
27.	10-21-86	Bearcreek	Tracking seeding on Burns Mine.
28.	10-21-86	Bearcreek	Hydromulching.
29.	10-21-86	Bearcreek	Burns Mine from scenic turnout.

SLIDE LOG

BEAR CREEK (VONDRA'S POND)

1.	9-22-86	IH Crawler looking northeast - Vondra Pond
2.	9-22-86	P & H Excavator and dump truck - Vondra Pond
3.	9-22-86	Pumping station looking southwest - Vondra Pond
4.	9-22-86	Loading truck - Vondra Pond
5.	9-22-86	Loading truck - Vondra Pond
6.	9-22-86	Scooping muck - Vondra Pond
7.	9-22-86	Truck at disposal site - Vondra Pond
8.	9-22-86	Looking southeast - before - Disposal Site
9.	9-22-86	Looking east from northwest corner - Disposal Site
10.	9-22-86	Putting dozer in hole - Vondra Pond
11.	9-22-86	Dozer in hole - Vondra Pond
12.	9-22-86	Mucking out pond - Vondra Pond
13.	9-22-86	Loading - production - Vondra Pond
14.	9-22-86	Working muck - Vondra Pond
15.	9-22-86	Dozer - looking south - Vondra Pond
16.	9-22-86	Dozer and excavator - Vondra Pond
17.	9-22-86	Stuck dozer - Vondra Pond
18.	9-22-86	Dozer at "soft" area - Vondra Pond
19.	9-22-86	Stuck Dozer II - Vondra Pond
20.	9-22-86	Loading area looking southwest - Vondra Pond
21.	9-23-86	From dam looking southwest - Vondra Pond
22.	9-23-86	From dam looking south - Vondra Pond
23.	9-23-86	Disposal site looking east - Vondra Pond
24.	9-23-86	Disposal site - southern part - Vondra Pond
25.	9-24-86	Entry location into pond - looking east - Vondra Pond

26.	9-24-86	Entry location - looking east - Vondra Pond
27.	9-24-86	Dozer operating - looking southwest - Vondra Pond
28.	9-24-86	Spillway work by separate Contractor - Vondra Pond
29.	9-24-86	Spillway work looking downstream - Vondra Pond
30.	9-24-86	Inlet looking southeast - Vondra Pond
31.	9-24-86	Right side looking upstream - Vondra Pond
32.	9-24-86	Left side looking downstream - Vondra Pond
33.	9-24-86	Removing dozer - Vondra Pond
34.	9-24-86	Looking southwest from dam - Vondra Pond
35.	9-24-86	From dam toward pumping station - Vondra Pond
36.	9-24-86	From dam looking south - Vondra Pond
37.	9-24-86	From spillway looking south - Vondra Pond
38.	9-24-86	From spillway looking southeast - Vondra Pond
39.	9-24-86	Dam and spillway looking east - Vondra Pond
40.	9-24-86	Roadway looking northeast #78 - Vondra Pond
41.	9-24-86	Entry location - looking east - after - Vondra Pond
42.	9-24-86	Looking from northwest to southeast - Disposal Site
43.	9-25-86	Note attached to dozer - Disposal Site
44.	9-25-86	Looking southwest - Disposal Site
45.	9-25-86	Looking south - Disposal Site
46.	9-25-86	Looking southeast - Disposal Site
47.	9-25-86	Water level and floating debris - Disposal Site
48.	9-25-86	Water thru headgate - not spillway - Vondra Pond

APPENDIX D

ANALYSIS OF PROFESSIONAL SERVICE FEES
DATE OF PREPARATION: January 29, 1986
PROJECT: Bear Creek

PROFESSIONAL SERVICE	AMOUNT
* Data Gathering, Site Evaluation, Preliminary Engineering, Final Engineering, Bidding Documents	$5,029.90
* Construction Administration, Construction Inspection, Final Report Preparation	$33,690.05
L.C. HANSON CO. COSTS	$38,719.95
CONSTRUCTION COSTS	$103,916.85

PERCENTAGE ANALYSIS

PRE-CONST. LCH CO COST/CONSTRUCTION COST	4.84%
CONST. & POST CONST. LCH CO. COST/CONSTRUCTION COST	32.42%
TOTAL LCH CO. COST/CONSTRUCTION COST	37.26%

REMARKS: Bear Creek services provided include basic engineering, construction staking, contract administration, quantity accounting and full time resident inspection. The project was completed well within the time allowed and at low cost. Adding the work for Vondra's Pond to the Bear Creek Proj. by change order resulted in a seperate project. This work resulted in a site evaluation, a complete scope of work and and specification writeup, negotiation of prices, construction inspection contract administration and evaluation of contractor's claims. Normally, much of the described work would fall under preliminary and final engineering costs but is shown here under the costs for construction as it occurred during the construction phase. The total time elapsed from the time the contractor was shown the site and the final payment request was made, was due in a large part, to the contractor's inability to respond or process the necessary paperwork in a timely manner.